Fiber Optic Sensing Systems for Launch Vehicles

Completed Technology Project (2013 - 2015)

Project Introduction

AES in partnership with HEOMD's Launch Services Program and ARMD, plans to develop Fiber Optic Sensing System (FOSS) hardware for use with Launch Vehicle Systems.

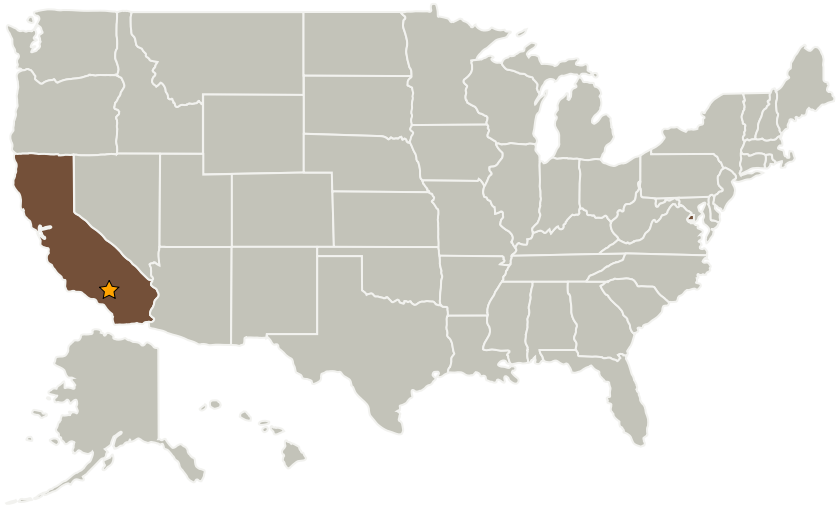
AES participation in this project was completed at the end of FY 2015 (September 30, 2015).

The objective of the Fiber Optic Sensing System (FOSS) activity is to demonstrate its value to space flight applications with the intent that it could be utilized by the Space Launch System program to realize performance improvements in that system. FOSS technology has the potential to dramatically improve structural and system efficiency by providing unprecedented insight into the structural performance of a vehicle in an affordable manner.

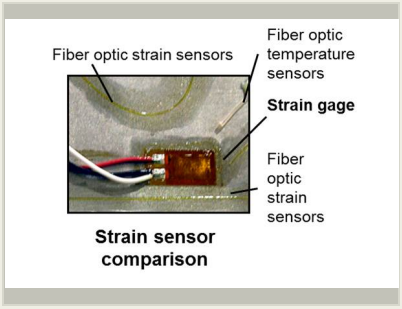
Anticipated Benefits

See "Capabilities Provided" under "DETAILS FOR TECHNOLOGY."

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Armstrong Flight Research Center(AFRC)	Lead Organization	NASA Center	Edwards, California



Strain Sensor Comparison

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Primary U.S. Work Locations	
California	District of Columbia

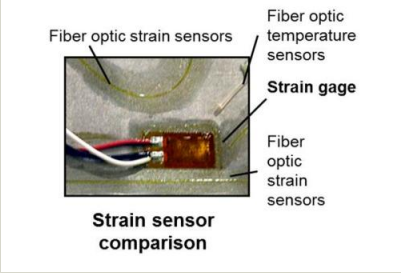
Project Transitions

October 2013: Project Start

September 2015: Closed out

Closeout Summary: To request closeout information for this project, please send an email with the Subject "TechPort Closeout Report Request" to hq-aes@mail.nasa.gov and specify which project closeout report you are requesting.

Images



FOSS
Strain Sensor Comparison
(https://techport.nasa.gov/image/3461)

Organizational Responsibility

Responsible Mission Directorate:
Exploration Systems Development Mission Directorate (ESDMD)

Lead Center / Facility:
Armstrong Flight Research Center (AFRC)

Responsible Program:
Exploration Capabilities

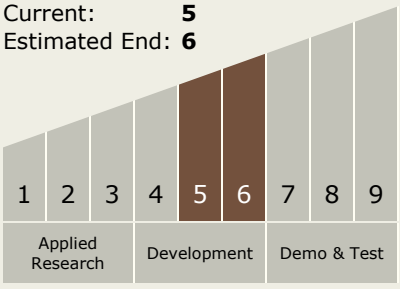
Project Management

Program Director:
Christopher L Moore

Project Manager:
Jeffrey E Bauer

Technology Maturity (TRL)

Start: **5**
Current: **5**
Estimated End: **6**



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Technology Areas

Primary:

- TX09 Entry, Descent, and Landing
  - TX09.4 Vehicle Systems
    - TX09.4.6 Instrumentation and Health Monitoring for EDL